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Product Name :

Voltameter, Copper

Product Code :

SLE/EM/27



Science Lab
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Description :

Voltameter, Copper (Product Code: SLE/EM/27) is an electrolysis cell in which the charge passed is measured by the mass of copper deposited. Three copper plates hang from thebakelite cover of a plastic jar: the two outer plates act together as a double anode, while the innerplate is the cathode and lifts out easily for weighing. Physics and chemistry teachers use it forpracticals on Faraday's laws of electrolysis, making it one of the simpler electrochemistryinstruments a school or college lab can own. It is made by **Jain Scientific Equipments Pvt Ltd (ScienceLab)**, Ambala, as part of its range of school physics lab equipment in India.

Specifications

Parameter	Detail
Electrodes	Three copper plates
Anode	Two outer plates acting as a double anode, connected to one binding post on top
Cathode	Inner copper plate fixed to a second binding post; easily removed for weighing
Cover	Bakelite, with the plates suspended from it
Vessel	Plastic jar

Typical Use

To find the electrochemical equivalent of copper, clean and weigh the cathode, fill the jar with copper sulphate solution, and connect the anode and cathode posts to a DC supply through an ammeter, a rheostat and a key. Pass a steady current for a timed interval, then rinse, dry and reweigh the cathode: the gain in mass divided by the charge passed (current × time) gives the result. Because the cathode sits between the two anode plates, copper deposits on both of its faces, which helps give an even coating.

A regulated supply and a rheostat make it easier to hold the current constant during the run. Handle the cathode by its edges once it has been cleaned, dry it thoroughly before each weighing, and rinse all plates after use so that dried electrolyte does not build up on the cover. The same cell can also be used to show that the anode loses copper while the cathode gains it.

Manufacturer

Jain Scientific Equipments Private Limited makes the copper voltameter under its ScienceLab trading name in Ambala, Haryana, as part of an electricity range used by schools and colleges in India and international markets. For company details, visit our profile page.

Related Laboratory Equipment

What you need to run a complete electrolysis practical:

- Cupric Sulphate (Copper Sulphate) — for preparing the electrolyte
- Digital Ammeter — records the current passed through the cell
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